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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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COLLARD & ROE, P.C. 1077 NORTHERN BOULEVARD ROSLYN, NY 11576			DANG, KET D	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

10/587,152

Applicant(s)

STIEGLBAUER ET AL.

Examiner

KET D. DANG

Art Unit

3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 October 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 42,44-62,64-89,91 and 93-98 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 42,44-62,64-89,91 and 93-98 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☒ The drawing(s) filed on 25 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1. ☒ Certified copies of the priority documents have been received.
 - 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-815)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Paper No(s)/Mail Date ____
- 6) ☐ Notice of Informal Patent Application
- 7) ☐ Other: ____

DETAILED ACTION

1. This office action is responsive to the amendment filed on October 13, 2011. As directed by the amendment: claims 61, 81, 93, and 94 have been amended, claims 1-41, 43, 63, 90, and 92 have been cancelled and new claims 95-98 have been added. Thus, claims 42, 44-62, 64-89, 91, 93-98 are presently pending in this application.

Response to Amendment/Argument

2. Applicant's amendments/arguments filed October 13, 2011 have been fully considered but they are not persuasive.

Applicant's amendments have overcome some of the 35 U.S.C. 112, second paragraph rejections from previous Office Action.

Applicant argues on page 16 of the Arguments/Remarks that Berger does not disclose "wherein the drive sleeve of the drive mechanism is formed with an internal thread adapted to the contour of said transport elements and engaged by at least one transport element of the plurality of transport elements" in claim 61. There are similar languages in claims 81, 93, and 94 with the same feature. Examiner disagrees with the argument because the feature above is taught by Sugiyama, not Berger. The rejection is based on the combination of references and they are analogous art as discussed in the Office Action above.

The prior arts of record are still read on new claims 95-98 as well, either stand alone or in combination of references. Examiner interprets the new claims based on the support provided on page 17 of the Arguments/Remarks.

Therefore, the combination of references fully meets all of the claimed limitations.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 42, 44-60, 81-85, 91, 93, and 95-98 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 81 recites the limitation "at least one transport element" at line 11 in the claim renders the claim indefinite. It is unclear for whether this at least one transport element is the same as the one recited at line 6. If it is so, then "the" or "said" should be used. If it is not, then essential structural cooperative relationships between the two are suggested.

Claim 93 recites the limitation "a drive sleeve" at line 20 in the claim renders the claim indefinite. It is unclear for whether this drive sleeve is the same as the one recited at line 5. If it is so, then "a" should be replaced with "the" or "said". If it is not, then essential structural cooperative relationships between the two are suggested. The limitation "at least one guiding element of the plurality of guiding elements" at line 17 in the claim renders the claim indefinite. It is unclear for whether this at least one guiding

element of the plurality of guiding elements is the same as the one recited at lines 7-8. If it is so, then "the" or "said" should be used. If it is not, then essential structural cooperative relationships between the two are suggested. Furthermore, the limitation "at least one transport element of the plurality of transport elements" at lines 21-22 in the claim renders the claim indefinite. It is unclear for whether this at least one transport element of the plurality of transport elements is the same as the one recited at lines 9-10. If it is so, then "the" or "said" should be used. If it is not, then essential structural cooperative relationships between the two are suggested.

Regarding claims 95-98, recite the limitation "a thread" in the claim. It is unclear and indefinite to the relationship between "a thread" and "an internal thread (36)" in the preceding claims, and to whether they are the same or different. Further clarification is required to either further differentiate (a thread). There are other threads are defined in specification such as "the conically designed thread (37)", "three internal threads (56)", "a thread (not illustrated)", "a thread (69a)", or "a conically extending thread (92)".

Regarding claims 96 and 98, recite the limitation "a drive" at line 2 in the claim. It is unclear and indefinite to the relationship between "a drive" and "a drive means (37)", i.e. the drive sleeve, see abstract" in the preceding claims and to whether they are the same or different. Further clarification is required to either further differentiate (a drive). There are other drives are also defined in specification such as "a drive pulley (73)", "a drive sleeve (43)", "electromotor (57)", or "a motor (77)".

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 42, 44-62, 64-89, 91, and 93-98 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berger (GB 2016984 A) in view of Schach et al. (WO 2004028702 A1, used US Pub. No. US 20060124762 A), Sugiyama (GB 2174942 A), and Cornell Jr. (US 3338492).

7. Regarding claims 61, 83, 86, 89, 91, 93, and 94, Berger discloses a method for feeding a welding wire 3 (Fig. 10 from a wire storage to a point of consumption, wherein a plurality of guiding elements 5 (Fig. 1) for guiding the welding wire 3 (fig. 1) are arranged in a base body (see figure 3 below), wherein the guiding elements 5 (Fig. 1) and the base body are arranged in a drive sleeve 7 (Fig. 1) to form a drive mechanism connected with at least one transport element 2 (Fig. 1) of each guiding element 5 (Fig. 1), the method comprising the following steps: guiding the welding wire through at least one guide element 2 (Fig. 1), contacting said welding wire at least one transport element 2 (Fig.1) on a side of the respective guiding element facing the welding wire 3 (Fig. 1), wherein said at least one transport element is shaped as a ball (page 3, lines 49-56); displacing at least one further transport element via a drive mechanism 7 (Fig. 1) on at least one further side of the guiding element 5 (Fig. 1, the bottom side), thus causing the transport elements 2 (Fig. 1) arranged in the guide path to be moved on by

said at least one further transport element displaced by the drive mechanism 7 (Fig. 1), and displacing at least one guiding element for adaptation to the diameter of the welding wire (Abstract recites "the diameter of a wire nozzle bore is automatically adjusted along with roller adjustment").

With respect to claims 45-49, Berger discloses a wire feed device, wherein the base body centrally (Page 1, lines 16-20) arranged in the drive sleeve 7 (Fig. 1); wherein the drive sleeve is formed with an internal thread adapted to the contour of the transport element 2 (Fig.1) and engaged by at least one transport element; wherein each of the internal thread of the drive sleeve, the base body (see figure below) and the guiding element conically designed 10 (Fig. 1) (Page 4, lines 28-39); wherein the base body comprises a preferably cylindrical projection (Page 2, lines 10-14), wherein the cylindrical projection is mounted in the interior of the drive sleeve; wherein the base body, on its side located opposite the projection, comprises a rectangularly designed positioning flange 1 (Fig. 2).

With respect to claims 52-54, Berger discloses wherein the coupling element is directly connected with a drive, in particular electromotor (Page 4, lines 40-42); wherein the drive is arranged axially to the wire feed device (Page 3, lines 94-100); wherein the drive comprises a hollow shaft 11 (Fig. 11) (Page 4, lines 94-99), wherein the hollow shaft is connected with the coupling element wherein the welding wire 3 (fig. 1) is passable through the hollow shaft 11 (Fig. 11) to the wire feed device (abstract).

With respect to claims 56-58, Berger discloses wherein a pressure element is arranged in the base body so as to be positioned between the positioning flange (Page

2, lines 100-107) and the guiding element 5 (Fig. 1) and to exert a pressure force onto the guiding elements (Page 1, lines 79-89); wherein each guiding element 5 (Fig. 1) comprises a guide groove 8 (Fig. 1), and at least one guide pin is arranged on the base body to engage said guide groove of the guiding element (Page 1, lines 79-84); wherein each transport element is designed in the form of a ball (Page 3, lines 49- 56).

With respect to claim 60, Berger discloses wherein the wire feed device is arranged in at least one of a welding apparatus (Page 1, lines 14-15).

With respect to claims 62, Berger discloses a method for feeding a welding wire 3 (fig. 1), wherein each guiding element 5 (Fig. 1) is displaced in the base body in at least one of a longitudinal and a vertical direction (Page 3, lines 103-109).

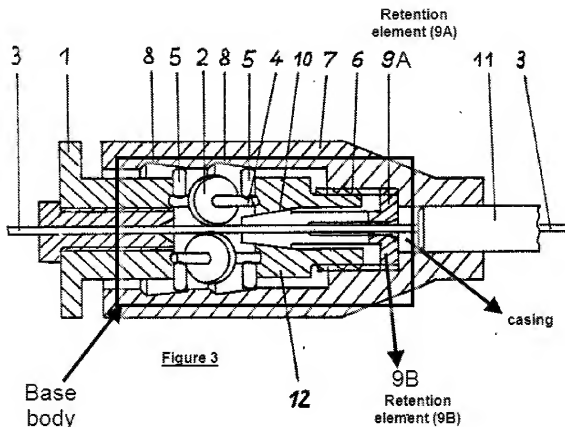
With respect to claims 65-69, Berger discloses wherein the base body is centrally (Page 1, lines 16-20) arranged in the drive sleeve 7 (Fig. 1); wherein at least one transport element engages a thread of the drive sleeve, with a contour of the thread being adapted to a contour of the transport element (Page 1, lines 79-84); wherein each of the thread of the drive sleeve, the base body and the guiding elements is conically designed 10 (Fig. 1) (Page 4, lines 28-39); wherein the base body (see figure 3 below) comprises a cylindrical projection (Page 2, lines 10-14), the base body being mounted in the interior of the drive sleeve 7 (Fig. 1) via the cylindrical projection (Page 2, lines 10-14); wherein the base body , on its side located opposite the projection, comprises a rectangularly designed positioning flange 1 (Fig. 2).

With respect to claims 72-74, 84, and 87, Berger discloses wherein the drive sleeve is directly connected with the drive is electromotor (Page 4, lines 40-42); wherein

the drive is arranged axially to the wire feed device (Page 3, lines 94-100); wherein the drive is connected with the coupling element via a hollow shaft 11 (Fig. 11) arranged in the drive (Page 4, lines 94-99), welding wire being fed through hollow shaft (Page 4, lines 40-42).

With respect to claims 76-78, Berger discloses wherein a pressure force is exerted on the guiding element by a pressure element arranged in the base body between the positioning flange (Page 2, lines 100-107) and the guiding element (Page 1, lines 79-89); wherein at least one guide pin arranged on the base body engages a guide groove 8 (Fig. 1) of the guiding element (Page 2, lines 65-71) and the guiding element is displaced via assembly (Page 1, lines 9-11); wherein the transport element is designed in the form of a ball (Page 3, lines 49-56).

With respect to claim 80, Berger discloses wherein the wire feed device (Abstract) is arranged in a welding torch and a welding apparatus (Page 1, lines 14-15).



With respect to claims 81 and 94, Berger discloses a wire feed device for transporting a welding wire from a wire storage to a point of consumption comprising (abstract): a plurality of guiding elements 5 (Fig. 1) for guiding the welding wire 3 (Fig.1), a base body (see figure 3 above); and a drive sleeve 7 (Fig. 1) connected with at least one transport element of each guiding element; wherein at least one further transport element 2 (Fig. 1) is connected with the welding wire 3 (Fig.1) in at least one of a force-locking manner and a form-locking manner (Page 1, lines 84-86) (Page 2, lines 100-107); wherein the base body (see figure 3 below) and the guiding elements 5 (Fig. 1)

are arranged in the drive sleeve 7 (Fig. 1); and wherein at least one guiding element 5 (Fig. 1) is displaceably arranged to adapt to a diameter of the welding wire (Abstract recites "the diameter of a wire nozzle bore is automatically adjusted along with roller adjustment").

With respect to claims 42, 50-51, 55, 59, 70-71, 75, 79, 85, and 88, Berger discloses wherein at least one guiding element is displaceably arranged in a base body (See annotated "Base body" in figure 3 above); the positioning flange is connected with a retention element in a torque proof manner 9A (See annotated Figure 3 above); wherein the drive sleeve is connected with a coupling element, coupling element being arranged on the opposite side of the retention element 9B (See annotated Figure 3 above); wherein the drive is rotationally connected with a further retention element (See annotated Figure 3 above for retention elements); wherein the drive sleeve has an outer diameter of between 20 mm and 30 mm (Abstract, variable diameter).

Berger also discloses all of the limitations of the claimed invention as set forth above, except for each guiding element including a guide path along which a plurality of transport elements are successively and displaceably mounted; and wherein said guide path of said guide element is contoured to a shape of at least one of said plurality of transport elements, wherein said plurality of transport elements are configured as rollers; and an internal thread adapted to the contour of said transport elements and engaged by at least one transport element; and wherein said transport elements move in a circulating manner within the guide path.

However, each guiding element including a guide path along which a plurality of transport elements are successively and displaceably mounted; and wherein said guide path of said guide element is contoured to a shape of at least one of said plurality of transport elements, and wherein said plurality of transport elements are configured as rollers are known in the art. Schach et al., for example, teaches each guiding element including a guide path along which a plurality of transport elements are successively and displaceably mounted (para. 0008, 0016-0018, and 0023); and wherein said guide path of said guide element is contoured to a shape of at least one of said plurality of transport elements, wherein said plurality of transport elements are configured as rollers 8 (fig. 2) (para. 0013-0014, and 0017). Schach further teaches such a configuration provides the use of the rollers which are held in ball bearings considerably reduces the maintenance intervals and further advantage of the use of the deflection rollers is also that the feed-proof force can be reduced and the wear can be kept very low (para. 0017). Therefore, it would have been obvious to one of ordinary skill in the art to modify Berger with each guiding element including a guide path along which a plurality of transport elements are successively and displaceably mounted of Schach in order to reduce the maintenance intervals and further advantage of the use of the deflection rollers is also that the feed-proof force can be reduced and the wear can be kept very low.

Similarly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Berger's teachings, since it has been held that constructing a formerly integral structure in various elements involves only routine skill

in the art. *Nerwin v. Erlichman*, 168 USPQ 177, 179. In addition, Berger was not adequately labeling those features on the figures and also his invention is capable of adapting them as well.

Furthermore, an internal thread adapted to the contour of said transport elements and engaged by at least one transport element is known in the art. Sugiyama, for example, teaches an internal thread 22 (fig. 2) or 8 (fig. 4) adapted to the contour of said transport elements and engaged by at least one transport element 4 (fig. 4) (page 1, lines 33-37 and lines 66-67). Sugiyama further teaches such a configuration provides a means to insure the positive and steady feed of welding wire (page 1, lines 36-37). It would have been obvious to one of ordinary skill in the art to modify Berger with an internal thread adapted to the contour of said transport elements and engaged by at least one transport element of Sugiyama in order to insure the positive and steady feed of welding wire.

With respect to claims 44, 64, and 82, Sugiyama teaches wherein three guiding elements 19a/19b/19c (Fig. 2) (Page 1, lines 61-66) are arranged about the welding wire; wherein three guiding elements offset by 120° , are arranged in the base body; and wherein three guiding elements are offset by an angle of 120° (See figure 2 for three guiding elements arrangement is illustrated a 120° apart).

With respect to claims 95 and 97, Sugiyama teaches the step of driving the guide sleeve to drive said transport elements within a thread 22 (fig. 2, i.e. the inner thread) of said guide sleeve, to guide said transport elements within said guide path to form a plurality of pressure points on the welding wire while feeding the welding wire (page 1,

lines 66-81). In addition, a plurality of pressure points on the welding wire while feeding the welding wire is also known in the art as evidenced by Berger (see the first page of Berger, right column, lines 13-15, i.e. a suitable pressure to be exerted by the feed rollers on the wire; furthermore on page 1, lines 79-95, and throughout the reference).

With respect to claims 96 and 98, Sugiyama teaches a thread 22 (fig. 2, i.e. the inner thread), and wherein the device further comprises a drive 11/11' (fig. 1, i.e. the drive motor) coupled to said drive sleeve, said drive being configured to drive said drive sleeve to drive said transport elements within said thread of said drive sleeve to guide said transport elements in said guide path via said drive sleeve to form a plurality of pressure points on the welding wire while feeding the welding wire (page 1, lines 66-81). In addition, a plurality of pressure points on the welding wire while feeding the welding wire is also known in the art as evidenced by Berger (see the first page of Berger, right column, lines 13-15, i.e. a suitable pressure to be exerted by the feed rollers on the wire; furthermore on page 1, lines 79-95, and throughout the reference).

Furthermore, wherein said transport elements move in a circulating manner within the guide path is known in the art. Cornell Jr., for example, teaches wherein said transport elements 66 (fig. 4) or 71 (fig. 5) move in a circulating manner within the guide path (col. 3, lines 54 – col. 4, lines 25). Cornell Jr. further teaches such a configuration provides a dual wire feeder having a reversible electric motor as a source of motive power, and including means operative in the forward and reverse rotation of the motor to feed wire selectively from first or second sources of supply of wire (col. 1, lines 55-59). It would have been obvious to one of ordinary skill in the art to modify Berger in

view of Schach et al., and Sugiyama with wherein said transport elements move in a circulating manner within the guide path of Cornell Jr. in order to provide a dual wire feeder having a reversible electric motor as a source of motive power, and including means operative in the forward and reverse rotation of the motor to feed wire selectively from first or second sources of supply of wire.

Prior Art

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Evans (US 1759105) discloses die for laying wire rope and wire-rope strands. Harig (US 5082248) discloses apparatus for pulling on a line. And Eujita et al. (US 4136273) discloses method and apparatus for TIG welding.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KET D. DANG whose telephone number is (571)270-7827. The examiner can normally be reached on Monday - Friday, 7:30 - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoang Tu can be reached on (571) 272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/KET D. DANG/
Examiner, Art Unit 3742
December 8, 2011

/Henry Yuen/
Supervisory Patent Examiner, Art
Unit 3742